

WHAT IS CLAIMED IS:

1 1. A digital watermark information extracting method in  
2 which digital watermark information is extracted from image  
3 data which has the digital watermark information embedded  
4 therein by altering at least one pixel data located at a  
5 predetermined position on a specific coordinate and is  
6 geometrically deformed, comprising: an embedding position  
7 check step of performing the processing of extracting at  
8 least one pixel data at a predetermined position on the  
9 specific coordinate from the image data and comparing the  
10 data value of the pixel data thus extracted with a  
11 reference value to judge whether the information is  
12 embedded in the pixel data while applying the geometrical  
13 deformation on the image data until it is confirmed that  
14 the information is embedded in the pixel data; said  
15 embedding position check step comprising:  
16 a roughly checking step of executing the processing  
17 of extracting from the image data at least one pixel data  
18 located at a predetermined position on the specific  
19 coordinate and comparing the data value of the pixel data  
20 thus extracted with the reference value to judge whether  
21 the information is embedded in the pixel data concerned  
22 while the geometrical deformation is applied to the image  
23 data by every first geometrical deformation rate which is  
24 determined by a size of each of pixel blocks in which the

25 alteration is made, a pitch of the pixel blocks and the  
26 number of the pixel blocks until it is confirmed that the  
27 information is embedded in the pixel data concerned; and  
28 a detailed checking step of executing the processing  
29 of extracting from the image data at least one pixel data  
30 located at a predetermined position on the specific  
31 coordinate and comparing the data value thus extracted with  
32 the reference value to judge whether the information is  
33 embedded in the pixel data concerned while the geometrical  
34 deformation is applied to the image data by every second  
35 geometrical deformation rate smaller than the first  
36 geometrical deformation rate within a predetermined range  
37 containing the geometrical deformation rate when it is  
38 confirmed in said roughly checking step that the  
39 information is embedded in the pixel data, until it is  
40 confirmed that the information is embedded in the pixel  
41 data concerned.